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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,099	10/10/2006	Jiliang Tang	606932000100	5385

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MORRISON & FOERSTER LLP
12531 HIGH BLUFF DRIVE
SUITE 100
SAN DIEGO, CA 92130-2040

EXAMINER	
IBRAHIM, MEDINA AHMED	
ART UNIT	PAPER NUMBER
1638	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,099	TANG ET AL.	
	Examiner	Art Unit	
	MEDINA A. IBRAHIM	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/29/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 6-11 are pending and are examined.

Specification

The disclosure is objected to because of the following informalities: for example, page 5, paragraph [0031], contains an embedded hyperlink directed to an Internet address. The use of hyperlinks and/or other form of browser- executable code are not permitted under USPTO current policy because the content of such links are subject to a change, resulting in the introduction of New Matter into the specification. Applicant is required to delete the embedded hyperlink and/or other form of browser- executable code. See MPEP 608.01.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 11 is indefinite in the recitation of "medicament treatment" which is neither defined in the specification nor known in the prior art. Therefore, the phrase is open to a variety of interpretations. Therefore, the metes and bounds of the claim are unclear.

4. Claim s 10-11 provides for the use of gene in preventing and treating plant disease, but, since the claim does not set forth any steps involved in the

method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 10-11 are is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 6-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

3. The claims are broadly drawn to a gene *XC1950* which encodes phosphoenolpyruvate synthase having the nucleotide sequence of SEQ ID NO: 1 or a nucleotide sequence having at least 80% sequence identity to SEQ ID NO: 1 and

retaining the function of SEQ ID NO: 1, and a method of using said gene to treat plant diseases, said method is for medicament treatment.

4. The specification the isolated *Xanthomonas campestris* gene *XC1950* having the nucleotide sequence of SEQ ID NO: 1 which encodes phosphoenolpyruvate synthase, a key enzyme in gluconeogenesis in bacterial pathogen. The specification states that a mutation of the phosphoenolpyruvate synthase gene will block the gluconeogenic pathway which would result in significant reduction in the pathogen virulence. In the Examples, Applicant teaches pathogenicity test of XC1950 gene mutant by inoculating Chinese radish leaves with mutant and wild type strains in suspension. Results show that the pathogenicity of the mutant decreased significantly as compared with the wild type strain (Example 4 and Figure 4).

5. The specification, however, neither teaches the use of the XC1950 gene to treat pathogen diseases in plants nor for any other treatment. While the specification shows that the mutant XC1950 exhibited lowered pathogenicity when inoculated into an isolated leaf as compared to the wild type strain, the specification does not teach the use of SEQ ID NO: 1 to treat or prevent pathogen resistance in a transgenic plant. It is unclear how the bacterial gene of SEQ ID NO: 1 can be used to treat or prevent pathogen diseases in a plant. It is also unclear if SEQ ID NO: 1 is the mutant or the wild-type sequence. There is no evidence in the record that supports the transformation of a plant with SEQ ID NO: 1 would actually prevent or treat pathogen diseases upon expression in a transgenic plant. The prior art does not amend the deficiency because

the prior art provides limited information on bacterial phosphoenolpyruvate genes or their uses in transgenic plants.

In addition, since Applicant has not provided guidance for a method of treating or preventing plant pathogen diseases in a plant using the disclosed nucleotide sequence, it is unclear whether expressing the microbial gene in a plant would actually led to the desired trait, i.e. disease resistance plants. Therefore, given the lack of guidance in the specification, the limited working examples, the state of the prior art regarding expression of bacterial phosphoenolpyruvate in a transgenic plant; the claimed use of SEQ ID NO: 1 and a nucleotide sequence having at least 80% sequence identity to treat plant pathogen diseases is not enabled. See In re Wands 858 F.2d 731, 8USPQ2nd 1400 (Fed. Cir, 1988).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 6-9 are rejected under 35 U.S.C. 102 (e) as being anticipated by Da Silva et al (Accession no AB012323 (2002), Applicant's IDS).

The claims are directed to a gene comprising a nucleotide sequence of SEQ ID

NO: 1 or a nucleotide sequence having at least 80% sequence identity to SEQ ID NO: 1, wherein the open reading frame of the gene is from nucleotides 201 to 2576 from its 5' end.

Da silva et al teach the complete sequence of the SEQ ID NO: 1 encoding phosphoenolpyruvate synthase from *Xanthomonas compestris* pv campestris, wherein the open reading frame of the gene is shown. Therefore, Da silva teaches all claim limitations.

8. Claims 6 and 10-11 are rejected under 35 U.S.C. 102 (e) as being anticipated by CAO et al (US 20030233675-A1, priority date 02/2002).

CAO et al teach an isolated nucleotide sequence having more than 88% sequence identity to SEQ ID NO: 1 (see attached Sequence Search Results) and a method of transforming a plant with said nucleotide sequence to increase disease resistance in the plant. Note, claim 11 is indefinite, therefore, is included in the rejection. Therefore, CAO teaches all claim limitations.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571) 272-0797. The Examiner can normally be reached Monday -Thursday from 8:00AM to 5:30PM and every other Friday from 9:00AM to 5:00 PM. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anne Marie Grunberg, can be reached at (571) 272-0975.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

3/2/08
Mai

/Medina A Ibrahim/
Primary Examiner, Art Unit 1638